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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,312	11/10/2003	Ricky Dion Barnes	5198-001	4460
24112 7590 01/06/2009 COATS & BENNETT, PLLC 1400 Crescent Green, Suite 300 Cary, NC 27518				
EXAMINER				
MUSSELMAN, TIMOTHY A				
ART UNIT		PAPER NUMBER		
3715				
MAIL DATE		DELIVERY MODE		
01/06/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/705,312

Applicant(s)

BARNES ET AL.

Examiner

TIMOTHY MUSSELMAN

Art Unit

3715

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-29 and 31-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-29, 31-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S5108)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Status of Claims

In response to the amendment filed 9/23/2008, claims 21-29 and 31-40 are pending in this application. Claims 1-20 and 30 have previously been cancelled.

Claim Rejections - 35 USC § 103

The following is a quotation of the relevant portion of 35 U.S.C. 103 that forms the basis for the rejections made in this section of the office action;

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Claims 21, 24-27, 29, 34-35, and 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Judd (US 4,934,937) in combination with Butler et al. (US 5,903,345).

Regarding claims 21, 26-27, 29, 34-35, and 39-40, Judd discloses a laser boundary system that comprises a laser emitter stationed at a fixed location that sweeps a beam through a partial field of rotation. See fig. 1. Note that a laser is an optical beam as per **claim 26**. Judd further discloses wearable sensors that emit an alarm only when struck by the beam (**claims 27, 34, and 39-40**). See figs.1 and 3. Judd further discloses wherein the swept beam(s) establish a height limit. See fig. 1, and note that the

beams establish a height limit to combatant trainees positioned below the beam, who will be struck if they rise up into the beam.

Judd does not teach wherein the boundary is swept continuously through 360 degrees. However, in the art of combat simulators utilizing laser boundary systems, such as Judd, one of ordinary skill would have been motivated to consider other similar laser emitting devices as alternatives. One such device is the emitter of Butler, which rotates a beam about a 360 degree axis. See col. 1: 30-35. One of ordinary skill would have been inclined to consider this emitter in order to extend the range of the beam, and increase the effective radial range of the simulation system. Since this would not be generating a new simulation system or concept, but merely adjusting and extending the range of the existing system, this range determination would be an arbitrary design choice well within the abilities of one of ordinary skill in the art.

Additionally, one of ordinary skill seeking a simulation device that requires maintaining a position below a boundary (e.g. a heat boundary) would have found it obvious to consider other similar laser boundary systems (such as combat simulators), since the use and purpose of the systems is essentially the same, and the primary difference is merely a stated definition as to what the beam represents. No unexpected results would ensue from defining the beam to represent different hazardous limits.

Regarding claim 24-25, Judd fails to teach wherein the beam establishes a 360 degree zone with the height limit, but this would have been obvious in view of Butler for the stated reasons set forth with regard to claim 21 above.

Regarding claims 22, 28, 31-33, and 36-38, Judd discloses wherein the beam apparatus is adjustable along the vertical axis, see col. 3: 15-20. Judd fails to teach wherein the beam angle is adjustable relative to the ground (including the angle specifics of claims 37 and 38) and also wherein these adjustments can be accomplished via remote control. However, Butler teaches of these features in col. 7: 42-63 and col. 1:

20-47. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the positioning and remote control laser scanner features of Butler as the emitters in the system of Judd, in order to improve the product by increasing the control of the laser emitting device in a manner known in the art as taught by Butler.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Judd (US 4,934,937) in combination with Butler et al. (US 5,903,345) and also Gerber (US 5,788,500).

Regarding claim 23, Judd fails to teach of redirecting elements spaced away from the emitter to receive a signal from the emitter and extend the height limit. However, Gerber teaches of a laser based safety zone simulation system that includes this feature. See col. 8: 15-20. Note that the reflected beams effectively redirect the beam, thus extending the height limit (which is established by the beam). It would have been obvious to one with ordinary skill in the art at the time of the invention, to utilize the beam redirection of Gerber, in the system of Judd, in order to more accurately represent battlefield scenarios (i.e. ricochet).

Response to Arguments

Applicants arguments dated 9/23/2008 have been fully considered, but are moot in view of the new grounds of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMOTHY MUSSELMAN whose telephone number is (571)272-1814. The examiner can normally be reached on Mon-Thu 6:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xuan Thai can be reached on (571)272-7147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T. M./
Examiner of Art Unit 3715

/XUAN M. THAI/
Supervisory Patent Examiner, Art Unit 3715